**(C) Data Systems to Support Instruction** *(47 total points)*

**State Reform Conditions Criteria**

**(C)(1) Fully implementing a statewide longitudinal data system** *(24 points – 2 points per America COMPETES element)*

The extent to which the State has a statewide longitudinal data system that includes all of the America COMPETES Act elements (as defined in this notice).

*In the text box below, the State shall describe which elements of the America COMPETES Act (as defined in this notice) are currently included in its statewide longitudinal data system.*

Evidence:
- Documentation for each of the America COMPETES Act elements (as defined in this notice) that is included in the State's statewide longitudinal data system.

*Recommended maximum response length: Two pages*

**Introduction and context**

Historically, Kentucky has been a leader in education technology infrastructure development, leveraging that common infrastructure to address persistent resource inequities across geographic locations, and enabling both educators and students to take full advantage of these tools. In the 1990s, the Commonwealth invested over $600M in the creation of the Kentucky Education Technology System, a statewide Information Technology infrastructure for public schools. One of the greatest values of education technology is being able to address the different teaching and learning styles of teachers and students through enhanced communication and sharing of information. Kentucky is a national leader in providing both high-speed, quality Internet access and intelligent classroom tools to our students and teachers, which allows Kentucky to do unique things that most other states cannot. Data from our FY10 Technology Readiness Survey demonstrate some of Kentucky's important accomplishments along this front:

- 100% of Kentucky's school districts have a high-speed Internet connection coming into them via the Kentucky Educational

Network

- Kentucky has electronic content caching in 100% of school districts which allows districts to build local electronic libraries of content they will use frequently in the classrooms in their district. This approach increases the access speed and reliability of content available to the student and teacher when they want it, ensuring a positive experience
- Kentucky is the only state in America that has Active Directory in place for 100% of the classrooms in Kentucky, which allows some very sophisticated instructional and administrative activities regarding management of users and educational resources in a very efficient and effective way that no other state will be able to do
- 80% of Kentucky classrooms use either the electronic projector or large screen plasma/LCD to display electronic content for teaching and learning (e.g., Kentucky Educational Television's Encyclomedia, Internet web sites, and formative testing)

Kentucky was also the first state to implement both standardized district financial reporting and student/school management data systems in all districts and schools, thus enabling complete vertical integration of data from these systems.

Building on those successes, in 2006 the State began the development of the Kentucky Statewide Longitudinal Data System (KY SLDS) with the help of a first round grant from the Institute of Education Sciences (IES).  There were two main **goals** for building the statewide longitudinal system:

1. To provide meaningful data to improve instruction and overall effectiveness at all levels of the system
2. To streamline data collection and reporting to save time and resources and to eliminate the resource gaps between districts across the state

The Commonwealth wanted to put critical data in the hands of decision-makers at all levels to focus on improving student learning by improving instruction:

- Teachers could access more complete data to enable differentiated instruction

- Principals and superintendents could analyze patterns across classrooms and schools to identify core content that students had not yet mastered

- Curriculum administrators could analyze program effectiveness

- State administrators could analyze the impact of programs on student achievement to more effectively allocate funding and guide Kentucky's educational environment so that it meets the needs of all children to be successful

- Postsecondary educator training programs could be research centers for continuous teacher training as well as partners in the creation of professional development and teacher retention activities

Additionally, analyses showed that data collection and management processes at that time were in need of dramatic improvement. Educators across Kentucky spent too much time searching and collecting data from multiple owners, which meant less time was devoted to improving instruction. Creating one system at the state level would reduce the time burden on districts and generate huge cost savings by avoiding duplicate efforts across the 174 districts. Most importantly, a statewide data infrastructure would mean all districts had access to the same common resources, thereby ameliorating the resource gaps between small (often rural) districts and larger (often urban) districts.

**(C)(1) Current status of America COMPETES Act elements**

Our statewide longitudinal data system has all twelve America COMPETES Act elements:

1. A unique statewide student identifier that does not permit a student to be individually identified by users of the system

   - The Kentucky Department of Education implemented a statewide, unique, student identifier in 2005, prior to the development of an SLDS. Implementation of the identifier was facilitated by the Commonwealth's single, statewide student information system (SIS)

2. Student-level enrollment, demographic, and program participation information

- Student-level enrollment, demographic, and program participation information have been included within the SLDS since 2007. These data are currently populated from the Kentucky Core Content Test booklet information as well as from the student data collected by the statewide SIS

3. Student-level information about the points at which students exit, transfer in, transfer out, drop out, or complete P–16 education programs

   - Detailed data describing the points at which students enter and exit the P-12 educational environment are collected by the statewide SIS and entered into the SLDS. Work is being completed on updates to Kentucky's High School Feedback Report, which will provide similar information for post-secondary effort.

4. The capacity to communicate with higher education data systems

   - Student transcripts provided to Institutions of Higher Education contain the unique student identifiers, which enable linking of student data between P-12 and institutes of higher education. Various other ad-hoc systems already provide the capacity to share data electronically between P-12 and postsecondary systems. These systems have been able to contribute data, such as earlier iterations of High School feedback data, into the KY SLDS.

   - The P-20 Data Collaborative was formed in 2009 to facilitate data sharing between P-12, teacher certification, and higher education in Kentucky with plans to include additional agencies in the future (e.g., Kentucky Higher Education Assistance Authority, and Workforce Development, etc). Kentucky's SLDS application for 2009-10 includes plans for the next phase of including additional elements to meet the objectives of the P-20 Data Collaborative process. The Collaborative has brought together staff from each of the agencies with Kentucky's Secretary of Education to address the legal, political, and fiscal issues that have slowed the sharing of data in the past. One of the first tangible results of this Collaborative has been the updating of Kentucky's High School Feedback Report, which had been highlighted by the Data Quality Campaign and a number of other organizations as a national model.

5. A State data audit system assessing data quality, validity, and reliability

   - Data quality audits currently take place primarily at two places: A) the primary point of data collection, such as the state-level SIS repository; and B) at the KY SLDS, where data from various systems are collected together for analysis and reporting. Similar data from different systems can be reviewed for consistency and to make sure they match previous formats

6. Yearly test records of individual students with respect to assessments under section 1111(b) of the ESEA (20 U.S.C. 6311(b))

   - Test records for individual students have been available within the SLDS since 2007. Current assessments include the Kentucky Core Content Assessment, ACT, PLAN, and Explore, and the Kentucky Occupational Skill Standards Assessment

7. Information on students not tested by grade and subject

   - Data on students not tested by grade or subject currently exists within the SLDS. It is collected as part of the annual Kentucky Core Content Test cycle and provided to the KY SLDS along with student-level assessment results

8. A teacher identifier system with the ability to match teachers to students

   - The KY SLDS contains detailed course and class information along with detailed and unique information about educators and students. The course and class information provides the common link between students and teachers.
   -

9. Student-level transcript information, including information on courses completed and grades earned

   - Student-level course completion and grades earned data are collected by the student information system and provided to the KY SLDS. Student transcripts provided to Institutions of Higher Education contain the unique student identifier

10. Student-level college readiness test scores

   - Kentucky is focused on a model of continuous improvement. Each stage in a student's academic career sets the

groundwork for each subsequent stage. Keeping that in mind, student performance on the Explore, Plan and ACT assessments is currently available within the KY SLDS and are utilized in multiple reports and analytics. Performance on the Explore and Plan assessments are direct predictors of performance on the ACT, which is itself a predictor of performance in the postsecondary environment. Corrective action based on results of Explore and Plan should increase student opportunities for success in postsecondary education

11. Information regarding the extent to which students transition successfully from secondary school to postsecondary education, including whether students enroll in remedial coursework

- Student transcripts provided to institutions of higher education contain the unique student identifiers, enabling institutions of higher education to report on and link students' postsecondary performance / transition information (including enrollment in remedial coursework) to those students' high school performance. In addition to the ACT data and transcripts with the unique student identifier, Kentucky currently collects other data to aid in the determination of adequate student preparation for postsecondary success. For example, online access to Individual Learning Plans (ILPs) allow middle and high school students and their parents to plan and monitor preparation for high school graduation, college, and career. Data on participation in dual credit and Advanced Placement courses also are included in the student profile, as well as other likely contributors, such as participation in Extended School Services. College and university transition and student success data will be made available through the P-20 Data Collaborative agreements.

12. Other information determined necessary to address alignment and adequate preparation for success in postsecondary education

- Kentucky has a long history of collaboration between secondary and postsecondary institutions. Ten years of formal collaboration has resulted in many programs and initiatives benefitting Kentucky students. Just a few of these have been Project Lead the Way, a model program to prepare high school students to successfully transition as engineering majors in college; a state level Science, Technology, Engineering, and Mathematics (STEM) task force that developed a

statewide P-20 strategic action plan; a statewide GearUp program to increase college-going rates; among many others. Kentucky has a statewide remedial and developmental education policy that identifies students with remedial needs based on their ACT or other standardized exam scores by subject. In 2006, Kentucky's legislature passed Senate Bill 130, which ensures that all public school students take the EXPLORE, PLAN, and ACT standardized tests in grades 8, 10, and 11 respectively. This helps to ensure that teachers and school staff can identify students who are not on track to be "college ready" while they still have time to provide interventions. Through these efforts and others, Kentucky's schools are able to learn from information that goes beyond the predictive scores from these standardized tests to include data about actual postsecondary performance and success to identify where the P-12 and postsecondary curricula need to be better aligned.

(*See Evidence for (C)(1) in Appendix NN: Documentation of America COMPETES Act Elements in Kentucky's Statewide Longitudinal Data System Overview for a guide to the documentation provided and Appendix OO through Appendix VV for specific pieces of documentation of these elements*)

**Reform Plan Criteria**

**(C)(2) Accessing and using State data** *(5 points)*

The extent to which the State has a high-quality plan to ensure that data from the State's statewide longitudinal data system are accessible to, and used to inform and engage, as appropriate, key stakeholders (*e.g.*, parents, students, teachers, principals, LEA leaders, community members, unions, researchers, and policymakers); and that the data support decision-makers in the continuous improvement of efforts in such areas as policy, instruction, operations, management, resource allocation, and overall effectiveness.[1]

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[1] Successful applicants that receive Race to the Top grant awards will need to comply with the Family Educational Rights and Privacy Act (FERPA), including 34 CFR Part 99, as well as State and local requirements regarding privacy.

**Introduction and context**

Education stakeholders across the state have increased their requests for richer and more accurate data spanning across years to make informed strategic decisions about how best to improve instruction from the classroom up through the system. From the start, the Kentucky Statewide Longitudinal Data System (KY SLDS) was developed to put critical data into the hands of decision-makers at all levels to positively impact instruction and student learning and success. KY SLDS allows those increasing requests to be answered while reducing the burden on Department of Education staff. With a long history of reform committed to high standards for all students and accountability for their achievement, since 1992 every school in Kentucky has received its student achievement results for every subject broken out by key demographic groups. Yet accurate data and meaningful information, key factors in the continuous improvement of the Commonwealth's educational system, were not linked *over time* in a single data system. With robust data and information over time, stakeholders will be able to make more effective decisions to improve instruction and student performance – teachers will have access to a more complete data set to enable differentiated instruction, principals and superintendents will be able to analyze patterns across classrooms and schools to identify core content students have not yet mastered and program effectiveness, and state administrators will be able to analyze the impact of programs on student achievement to more effectively allocate funding.

With the help of an award during the first round of grants from the Institute of Education Sciences (IES) in 2005 and a second award in early 2009, the Commonwealth has built a robust statewide longitudinal data system infrastructure that collects, integrates, and

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stores key data in a statewide data warehouse. This initial funding supported the building of the Kentucky Statewide Longitudinal Data System (KY SLDS) as a K-12 enterprise. The second award is funding design necessary to expand the system to P-20 – integrating robust data from preschool (including from the Kentucky Early Childhood Data System) through postsecondary. The Kentucky P-20 Data Collaborative – a partnership between the Kentucky Department of Education ("the Department"), the Council on Postsecondary Education ("the Council"), and the Education Professional Standards Board ("the Standards Board"), chaired by the Secretary of the Education and Workforce Development Cabinet – is leading this work.

With the foundational infrastructure now in place, stakeholders have begun to access that information for use across the state. In Fall 2009, superintendents, district assessment coordinators, and chief information officers began accessing KY SLDS data at the aggregate school and district level, with principal access opened up early in 2010. Also in early 2010, the remaining district assessment coordinators not already in the system gained access to individual student-level information, to analyze and report out – an important step as we work toward every *teacher* and *principal* having access to their individual students' data, in accordance with privacy laws, so they can use this data to improve student achievement. Kentucky is also already reporting select KY SLDS data (e.g., ACT scores, summative state test scores, and transcripts) through the Individual Learning Plans – online education planning tools that enable middle and high school students, their parents, and their teachers to track their individual progress and preparation for college and career. The Department has begun providing initial online trainings for district administrators in the use of the KY SLDS data.  It also began the first phase of data steward and management training at the agency level to improve the culture of data use and data-driven decision making across the Department. Data stewards and data managers have been identified across the Department offices and they have received training in their roles and responsibilities, namely to ensure accuracy of the data collected and reviewed across Department offices and to enhance the information reporting process through staff development and collaboration with the various offices and programs responsible for producing data and information. (*See Appendix WW: Roles and Responsibilities of Data Stewards and Data Managers for a more detailed description of the roles and responsibilities of data*

*stewards and data managers*) Furthermore, the Department is currently developing the infrastructure necessary to provide the General Assembly, at its request, access to the KY SLDS and training on the use of the system. In the meantime, the General Assembly's research arm, the Legislative Research Commission, was provided access prior to the 2010 legislative session. Not only will access to KSLDS provide the Legislature with more immediate access to educational data, it will also free up Department staff time. While providing state legislators with access to the KY SLDS may seem unconventional, it underscores both the high value placed on access to data by Kentucky's Legislators and the ease of use the KY SLDS.

Kentucky submitted an application for the Statewide Longitudinal Data Systems grant under the American Recovery and Reinvestment Act in December of 2009 to continue to advance the data systems work. As the processes for both that grant and a Race to the Top grant are competitive, the strategy that follows represents a comprehensive plan for access and use of State data, and includes work contained in the ARRA SLDS grant proposal.  (In accordance with written guidance in the United States Education Department's Addendum #2 to the Frequently Asked Questions on Race to the Top, question M-4, Kentucky has built this plan under the assumption that the State will not receive these other competitive funds; see budget narrative for further detail.) (*See Appendix XX: Kentucky's ARRA SLDS Grant Proposal for Kentucky's complete ARRA SLDS proposal*)

The **overarching goal** of our past and future work is that stakeholders across Kentucky:
- <u>Access</u> meaningful longitudinal information at any time through an online portal log-in based on their role and needs, and
- <u>Use</u> that information to improve the system and student outcomes for all students

**Activities**

Building on successes to date, Kentucky will engage in three principal **activities** over the next several years to accomplish the State's goals.

**Activity 1: Expand the Kentucky Statewide Longitudinal Data System (KY SLDS)**

Robust, targeted, longitudinal data across the P-20 and workforce environments is a critical enabler of the work across the four reform areas. For example, integrating teacher and principal preparation and certification data from the Standards Board with the Department's P-12 data is a prerequisite for reporting the effectiveness of teacher and principal preparation programs *(for more detail, see (D)(4) reform plan narrative)*. KY SLDS data collection can also provide information on the effectiveness of professional learning opportunities by tracking teachers' and school leaders' experiences and student, classroom, school, and district progress. Therefore, the robust longitudinal data system is not an end in itself, but rather a critical means that enables the work across the comprehensive reform agenda. The Department will work with an existing vendor to expand the KY SLDS, where specific work has already been contracted and a shared knowledge base has been created. This vendor will then expand its scope to include all work outside of this shared knowledge base to ensure required expertise will be brought in as efficiently as possible.  By late 2012, the planned KY SLDS expansion will be complete so that it houses all data sources currently identified as critical to the statewide reform agenda. [Note: All work in this activity is included in Kentucky's ARRA SLDS grant proposal as well.]

*Expanding existing sources*

The Commonwealth has already begun the process of expanding its KY SLDS data collection and storage to include additional postsecondary data from the Council and teacher and principal preparation and certification data from the Standards Board, through the existing 2009 grant. As described in (C)(1), the KY SLDS has already established the connection with postsecondary services and some postsecondary data, including those required for Kentucky's High School Feedback Report,  are already contained in the KY SLDS. Going forward, additional postsecondary data will be added to the KY SLDS. To integrate much of the additional data into the KY SLDS, however, the data collection capabilities of these agencies must be enhanced and in some cases reengineered. As a result, stakeholders will be able to access student and educator information across the P-20 and workforce environments (in

accordance with all privacy laws and regulations) to better understand what is working and what is not.

*Adding new data*

In addition to data from the Council and the Standards Board, Kentucky will also integrate preschool data from the Kentucky Early Childhood Data System as well as new student financial aid and workforce data from the Kentucky Higher Education Assistance Authority, the Office of Employment and Training, and the Office of Vocational Rehabilitation. In addition, the KY SLDS already contains some Career and Technology Education data, but will incorporate a much broader spectrum of career and technology data with the expansion of the KY SLDS proposed in this grant. Furthermore, Kentucky will be continually adding other important P-12 data sources into the KY SLDS and creating new reports that enable stakeholders to improve instruction – such as the Kentucky High School Feedback Report that provides postsecondary achievement information to high schools as feedback on their graduates. This additional data will provide a more complete picture of the success of students from preschool through college and career.

*Ensuring effective data governance and data quality*

Kentucky's multi-agency P-20 Data Collaborative ("the Collaborative") will oversee the process of merging P-20 data within the shared repository, create rules governing access to and use of the data, and make it available for reporting, analysis, and research. As additional agencies join the Collaborative, the need for a review of the existing governance structure to make any needed changes will be addressed. Kentucky will also be expanding its current data quality audit processes (including primary and secondary audits at two points in time) to implement a closed-loop data correction process that requires corrections to be made at the point of data entry, resulting in more robust and accurate data in the KY SLDS.

**Activity 2: Improve accessibility**

As the KY SLDS is expanded to include the necessary additional data, Kentucky will simultaneously be completing the Identity

Management System to enable role-based access to the wealth of data in the longitudinal data system through the existing online portal. To enable real improvement in instruction and student learning and success, teachers and principals need access to longitudinal data – including results on a variety of authentic assessments over time *(See (B)(3) plan narrative for more information on the various types of assessments)* – for their individual students (in accordance with privacy laws), not solely to aggregate data. Currently, granting such access is possible, but only through a time-intensive manual process which introduces risks deemed too high to the confidential student data. The Identity Management System, however, will automate the role identification of each educator and administrator and link him/her to his/her individual students in a secure fashion. All teachers, principals, and superintendents will have access to their individual students' longitudinal data through the existing online portal during the 2010-2011 school year. Once the Continuous Instructional Improvement Technology System (CIITS; *see plan (C)(3) for more information*) is in place, stakeholders will access KY SLDS data through the CIITS. The Department already provides longitudinal reports about student performance, finances, and educators and plans to improve them and create additional ones going forward, based upon the needs of educators and administrators, but tempered by the requirements of FERPA and other legislation that seeks to protect student privacy and rights**.** [Note: All work in this activity is included in Kentucky's ARRA SLDS grant proposal as well.]

**Activity 3: Drive usage**

Having a robust longitudinal data system infrastructure and providing access to even the most meaningful and user-friendly data will not by itself ensure that data are being used to drive continuous improvement at all levels of the system. Stakeholders must understand how to access and *use* those data to make better decisions in their current positions. For that reason the State is investing heavily in the development and facilitation of professional learning opportunities. These opportunities will focus on how to use the technology to access longitudinal data and most importantly how to then use those data to drive continuous improvement in student learning. Professional development for data driven decision making is already available via the Commonwealths' e_Learning Kentucky online training platform. Providing training in this manner has been shown to ensure greater quality of content and

consistency of message while also returning more engaged than average participation. Stakeholders need to be able to identify what data they need, how they can get that data, and how they will use the information to improve their decisions. Building on the Department's initial online and data steward trainings, in 2010, the Department will begin facilitating the development of professional learning opportunities to be provided through regional networks. *(See (B)(3) and (D)(5) reform plans for more detail on the comprehensive professional learning system, including the role of regional networks in effective delivery of trainings.)* The data steward training, for example, now needs to be delivered statewide to change the culture of data usage in local districts and ensure that data quality and validity is addressed from the ground up. The statewide district-level training (provided through the regional networks) will include instruction about how to maintain data quality, how to access data from the KY SLDS, and how to effectively use that data to improve student learning at the classroom, school, and district levels. [Note: Some work in this activity is included in Kentucky's ARRA SLDS grant proposal, while other elements are specific to this Race to the Top application – *See further detail in Project 2 Budget Narrative*]

| Performance Measures<br><br>Performance measures for this criterion are optional. If the State wishes to include performance measures, please enter them as rows in this table and, for each measure, provide annual targets in the columns provided. | Actual Data: Baseline (Current school year or most recent) | End of SY 2010-2011 | End of SY 2011-2012 | End of SY 2012-2013 | End of SY 2013-2014 |
|---|---|---|---|---|---|
| Percentage of teachers who have role-based access to KY SLDS data | 0% | 50% | 100% | 100% | 100% |
| Percentage of principals who have role-based access to KY SLDS data | 0% | 50% | 100% | 100% | 100% |
| Percentage of district administrators who have role-based access to KY SLDS data | 0% | 50% | 100% | 100% | 100% |
| Percentage of legislators who have role-based access to KY SLDS data | 0% | 50% | 100% | 100% | 100% |
| Percentage of parents who have role-based access to KY SLDS data | 0% | 45% | 70% | 90% | 95% |
| Percentage of teachers who use the KY SLDS system (measured by reports / audits) | N/A | 50% | 100% | 100% | 100% |
| Percentage of principals who use the KY SLDS system (measured by reports / audits) | N/A | 50% | 100% | 100% | 100% |
| Percentage of district administrators who use the KY SLDS system (measured by reports / audits) | N/A | 20% | 25% | 30% | 40% |
| Percentage of legislators who use the KY SLDS system (measured by reports / audits) | N/A | 5% | 20% | 40% | 60% |
| Percentage of parents who use the KY SLDS system (measured by reports / audits) | N/A | 45% | 70% | 90% | 95% |

Given the extensive amount of work Kentucky has done already, we are well-positioned to achieve our goal of all of our teachers, principals, superintendents, and legislators having role-based access to the Kentucky Statewide Longitudinal System data by the end of the 2011-2012 school year. Parent access to longitudinal data lags behind the other stakeholder groups because their access

largely depends on districts and schools to identify each parent and provide that access at the local level. Our targets for superintendent and principal use of the SLDS data are equal to our targets for access to that data based on the belief that all superintendents and principals will need to use the system to access critical information on their schools and districts. Teacher use targets lag behind access targets assuming that a small percentage will not immediately get on board, and parent targets slightly lag behind access targets as well.

**(C)(3) Using data to improve instruction** *(18 points)*

The extent to which the State, in collaboration with its participating LEAs (as defined in this notice), has a high-quality plan to—

(i) Increase the acquisition, adoption, and use of local instructional improvement systems (as defined in this notice) that provide teachers, principals, and administrators with the information and resources they need to inform and improve their instructional practices, decision-making, and overall effectiveness;

(ii) Support participating LEAs (as defined in this notice) and schools that are using instructional improvement systems (as defined in this notice) in providing effective professional development to teachers, principals and administrators on how to use these systems and the resulting data to support continuous instructional improvement; and

(iii) Make the data from instructional improvement systems (as defined in this notice), together with statewide longitudinal data system data, available and accessible to researchers so that they have detailed information with which to evaluate the effectiveness of instructional materials, strategies, and approaches for educating different types of students (*e.g.*, students with disabilities, English language learners, students whose achievement is well below or above grade level).

*The State shall provide its detailed plan for this criterion in the text box below. The plan should include, at a minimum, the goals, activities, timelines, and responsible parties (see Reform Plan Criteria elements in Application Instructions or Section XII, Application Requirements (e), for further detail). Any supporting evidence the State believes will be helpful to peer reviewers must be described and, where relevant, included in the Appendix. For attachments included in the Appendix, note the location where the attachment can be found.*

*Recommended maximum response length: Five pages*

**Introduction and context**

As evidenced throughout this application, it is Kentucky's vision to ensure that every child is taught by an effective teacher in a school lead by an effective principal. In order to have positive impact on student learning, it is crucial that all teachers and leaders have, at their disposal, a wide variety of resources to ensure they are able to provide the highest quality learning environment for their students. In the classrooms and schools of the 21st Century it is essential that the data and instructional resources used by teachers and leaders be available in an increasingly technology-based environment. It is with this in mind that Kentucky will focus a great deal of energy on expanding the use of technology throughout the state. There are several factors that make this expansion necessary. First, Senate Bill 1 requires the Kentucky Board of Education ("the Board") to make available to LEAs and schools a model curriculum framework tied to the goals, outcomes, and assessment strategies of Senate Bill 1. Second, teachers and principals need ready access to information on student learning as well as their own practice as it relates to those students. Finally, Kentucky has a long history of working for equity among its schools and districts as it relates to resources. Building its instructional improvement system in a technology environment will ensure quality resources for every teacher and leader regardless of where that teacher or leader resides or what level of fiscal resources his or her district has.

In order for this kind of shift to a technology-based environment to be successfully implemented, some very intentional steps must be taken. The first is that the State must move our teachers and leaders to a high comfort level of technology use and then turn that comfort level into strong use of technology systems to improve their practice which will, in turn, improve student learning. In Kentucky we have successfully used statewide implementations of technology systems for student and school management information to improve outcomes for students. Specifically, the online Individual Learning Plans (ILPs), where students, parents, and teachers access individual student information to monitor their preparation for high school graduation and beyond has been a very successful method to give focus to addressing student outcomes. (*See (B)(3) narrative plan for further description.*) The key to moving forward is to take the multiple instructional resources available in the state and create a single system of tools and resources.

This new instructional improvement system must support teachers and principals in curriculum planning, creating and implementing a balanced assessment system, accessing to the best instructional resources, and a wide range professional learning opportunities, and tracking school improvement activities. If properly implemented, teacher and leader practice will improve, and as a result, so will student outcomes.

Stakeholders across the state see the need for critical work in this area. Over 80% of those surveyed agreed that future progress in data systems was important or very important for the Commonwealth. Almost 90% of those surveyed strongly agreed or agreed that implementing instructional improvement systems in schools and districts to provide teachers and others with "rapid-time" data on student performance will contribute to increased student learning.

The Kentucky Department of Education ("the Department") will build the Continuous Instructional Improvement Technology System (CIITS) – an online platform that will put key information and resources at the fingertips of teachers, principals, and administrators. The system will link to already existing proven resources – such as Encyclomedia, the Kentucky Learning Depot, and the Kentucky Virtual School and Virtual Library – as well as include newly developed materials. It will be linked with the Kentucky Statewide Longitudinal Data System (KY SLDS) which provides access to a wide range of longitudinal data elements and reports that can be used to inform classroom practice and improve student learning. To make data from the KY SLDS more usable, we will make it more relevant as a job-embedded resource for teachers, Department staff, and researchers. Already available data include, for example, assessment items; student demographics; student performance; and teacher demographics such as experience, rank salary, courses taught, and certifications. (*See (C)(2) reform plan for information on the expansion of KY SLDS.*) The CIITS will support the instructional improvement efforts of teachers and leaders by allowing them unprecedented access to curriculum, instruction, assessment, professional learning, evaluation, and school improvement resources through a single integrated system. As previously stated, integrating all resources in a single system, as opposed to separate systems, is the foundation of a successful transition to a

technology-based environment. Throughout the integrated system it will deliver longitudinal data from the Kentucky Statewide Longitudinal Data System to users depending on their roles and needs in each of the following areas.
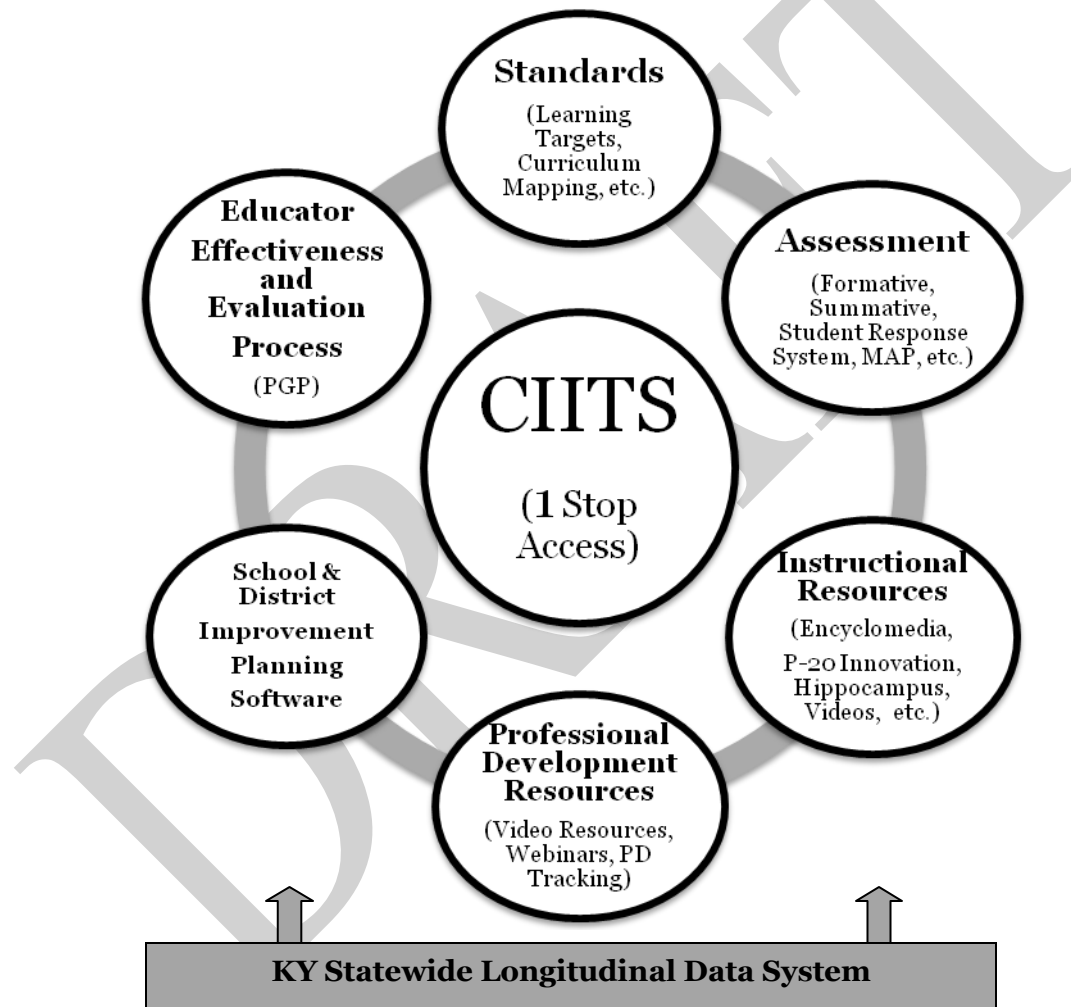
- **Curriculum Resources** – provides resources for deconstructing the new standards, cross-walking between the new Common Core Standards and Kentucky's Program of Studies and Core Content for Assessment, mapping the curriculum to align with the new standards, and aligning instruction vertically and horizontally across and within grade levels

- **Assessment Resources** – provides rich information on student learning by allowing users to build, deliver, score, and report on assessments for *formative* and *summative* purposes across all relevant levels of assessment use: *classroom* assessment, *interim benchmark* assessment, and annual *accountability* testing; supports assessment *for* learning by putting the results of these frequent assessments into teachers' and students' hands, increasing the descriptive feedback to help students and their teachers truly understand what they are learning and also includes a standards-based grade book, student portfolios, and multiple measures reporting

- **Instructional Resources** – provides a wide range of tools pertaining to instructional strategies (e.g., videos of highly-effective lessons), interventions, and student learning resources, incorporating existing resources that Kentucky teachers already have and use (e.g., Encyclomedia, Kentucky Learning Depot, and Kentucky Virtual Library) with newly created resources

- **Professional Learning Resources** – provides teachers and principals with electronic anytime access to all the inputs into their individual efficacy / growth portfolios, including informal observations, self reflections, performance tasks, scores on the rubrics and ratings categories, and local evidences inputted by teachers and principals (all in accordance with privacy laws and regulations); teachers will also be able to access customized resources and professional learning opportunities themselves that align with the portfolios and professional growth needs, e.g., resources such as online learning courses for job-embedded professional development, including custom publishing tools to support collaborative development and sharing of local content among professional learning teams and networks

- **School Improvement Resources** – allows schools and districts to create, monitor and evaluate the effectiveness of their improvement efforts. The system will allow for continuous improvement planning within schools and across districts. It will also allow school and district audits to be conducted in a more efficient manner and for schools and districts to track results

against a variety of data sets

When fully developed, the CIITS will be a "one stop shop" for an educator's professional needs. In one location an educator will be able to access and analyze all the information necessary to improve his or her practice. A teacher can access the system anywhere and in one session the teacher could: 1) review and analyze his or her students' assessment results; 2) access instructional resources like lesson plans and video clips of master teachers teaching the next set of content; 3) review his or her understanding of the content with help from online access to peers and university faculty; 4) go to extensive assessment item banks to develop formative assessments to measure progress; 5) access his or her professional growth plan and check professional learning resources to improve his or her practice; and 6) build evidences of student growth and other factors to measure his or her effectiveness. (*See (D)(2) plan for more detail*.)

**Activities**

There are three key activities Kentucky will engage in to ensure every teacher and principal accesses and uses the information and resources they need to improve instruction and student achievement.

**(C)(3)(i) Activity 1: Development and rollout of the Continuous Instructional Improvement Technology System (CIITS)**
The first step in providing teachers and principals with the interconnected set of information and resources to improve student achievement is to build the online instructional improvement system platform itself. The Department has initiated the procurement process and anticipates that a contract will be awarded in Fall 2010. The CIITS infrastructure will be complete by late-2011, but rolled out in stages as it is partially developed (e.g., standards resources available to all teachers during the standards rollout).

The Department has already started to develop content to populate the system. In February 2010, the Department began to facilitate the development of content resources connecting curriculum, assessment, instruction, and professional learning – led by the

appropriate Department offices (e.g., Office of Teaching and Learning to lead the content development around the new standards and assessments). The Mathematics and English/Language Arts standards components will be available to all teachers during the 2010 – 2011 school year (with partial development of the CIITS completed) in accordance with the rollout of the new standards *(see reform plan narrative (B)(3) for more information on the standards rollout)*, once the Senate Bill 1 deployment teams have completed deconstructing the standards and developing aligned instructional supports. The next wave of resources, primarily focused on instructional tools, data access and analysis, and professional development, will be loaded into the system once the infrastructure is complete in late-2011. (*See reform plan narratives (B)(3) and (D)(2) for more detail on the specific content to be developed.*) The Department will roll out complete access to the CIITS to select pilot districts on a voluntary basis (chosen based on their existing levels of collaboration and willingness) during the 2011-2012 school year. The pilot districts will provide valuable feedback to the Department as it makes improvements to the CIITS during Spring and Summer 2012 before full statewide rollout during Fall 2012. Because of their continuing extraordinary support, the Department will collaborate with its partners (the Prichard Committee, the Kentucky Parent-Teacher Association, the Kentucky Association of School Councils, the Kentucky Education Association, the Kentucky Association of School Superintendents, and others) to communicate with their members around the purpose and benefits of the CIITS. By Spring 2013, all teachers, principals, and district administrators will have role-based access to the CIITS.

It should be noted that Kentucky has a strong and successful history of rolling out statewide initiatives and systems, many of which were the first or largest of their kind at the time they were deployed. Among these systems are a statewide district financial package with single chart of accounts; a single student information system for the entire Commonwealth; the second largest Microsoft Exchange email system, after the U.S. Navy; the first statewide Virtual High School; and so on. Not only are the SEA staff who rolled these systems out prepared to do so again with the CIITS, but the LEA staff are prepared to assist with organized groups specialized in technology, assessment data, student data and so on.

**(C)(3)(ii) Activity 2: Professional learning around access and use of the CIITS**

Access to the right technology, information, and resources is not sufficient unless teachers and principals know how to use them in their day-to-day work to continuously improve instruction and student learning. For this reason the second key activity entails a significant investment in professional learning opportunities for teachers, principals, and district administrators to integrate the CIITS into their work so it becomes "an integral part of the way we do things."

The Commonwealth will utilize nine regional networks across the state, each led by a small leadership team supported by the regional Education Cooperative (or the network housed within Jefferson County Public Schools) (*see (A)(2), (B)(3), and (D)(5) for more detail*), to implement a capacity building model and develop an in-state network of over 400 statewide master trainers who will deliver scalable professional development to local schools, school councils, and districts focused on:

1) how to use the CIITS platform and tools,
2) how to use data to understand student needs and inform instruction (building on foundational KY SLDS training), and
3) how to use instructional data in professional learning teams to support continuous improvement.

Each of the nine regions will have a Department CIITS Implementation Coordinator for the four year period to lead the implementation of the CIITS and relevant training across all districts in the state. In each regional network, training will be provided to the administrators and teacher leaders that comprise the network, who will then be able to lead the efforts in their respective districts. Furthermore, training and support around using data to improve instruction and the CIITS specifically will be integrated into the revamped teacher and principal induction programs (i.e., the Kentucky Teacher Internship Program and the Kentucky Principal Internship Program). Going forward, all new teachers and principals, as well as those who transfer from other states, will receive the training and support necessary to access and use the system.

During Fall of 2010, the Department will facilitate the development of the training, specific to the standards resources that will be

available to all teachers during the 2010-2011 school year, deliver the training through regional networks in Fall and Winter 2010 in advance of the standards implementation. Additional professional learning around the CIITS will be developed and implemented during 2010-2011 in advance of the pilots in Winter 2011 and complete statewide implementation in Winter 2012. All training modules will be rolled out in the nine regional networks across the state along.

**(C)(3)(iii) Activity 3: Researcher access to data from the KY SLDS and CIITS**

The wealth of data and resources in the KY SLDS and the CIITS will be accessible to researchers in order to evaluate the success of various materials, strategies, and approaches to educating the diverse groups of students across the Commonwealth. While educators will be continuously evaluating the effect of their instruction on student learning through the various levels of assessment referenced in Activity 1, third party evaluations will provide invaluable insights into what is working and not working across classrooms, schools, and districts. While access to non-confidential data within the KSLDS and CIITS will be available to all stakeholders, including researchers, Kentucky will partner with researchers to evaluate identified programs, instructional materials and strategies, by providing access to data through the KY SLDS, CIITS and P-20 repository, (in accordance with all relevant privacy laws) as part of the evaluation process to investigate targeted research goals in high-impact areas.  In addition to staff from public and private institutions of higher education and external, educationally focused groups such as the Prichard Committee, "researchers" may also include Department curriculum (and other) consultants who will be looking at the impact of instructional activities and professional learning activities which may be posted on the system. This will allow for a rating system so teachers will know which of these activities are most effective with different groups of students and in different situations.

In 2010, Kentucky became one of six states selected to develop transformative educational processes through the Council of Chief State School Officers' Partnership for Next Generation Learning. Housed at the University of Kentucky's College of Education, the state's P20 Innovation Lab will provide a foundation for academic researchers from many institutions as well as other education

professionals and stakeholders to address a wide variety of education issues. The Department and other education agencies are actively working with the University to ensure access to needed data and leverage the research capabilities to better evaluate the state's education policies and processes and identify best practices and needed improvements.

Additionally, the Department, the Council on Postsecondary Education, and the Education Professional Standards Board will work together in calendar year 2010 and 2011 to ensure that institutions of higher education are included in the development and piloting phases of the CIITS through their partnerships in the regional networks. Going forward, researchers at institutions of higher education will be a key source of input and research to inform the continuous improvement of the CIITS itself. Through a Request for Proposals process (same comprehensive process including other work such as standards, professional learning, etc.); the Department will create contracts with researchers in helping the State determine what supports work best to improve teacher effectiveness and student learning. Successful proposals will include analysis of the quantitative data available through the CIITS as well as qualitative data (e.g., teacher and principal surveys and analysis of teacher evaluation documentation all provided in accordance with privacy laws, to inform our understanding of teacher use of the CIITS and resulting changes in practice).

| Performance Measures<br><br>Performance measures for this criterion are optional. If the State wishes to include performance measures, please enter them as rows in this table and, for each measure, provide annual targets in the columns provided. | Actual Data: Baseline (Current school year or most recent) | End of SY 2010-2011 | End of SY 2011-2012 | End of SY 2012-2013 | End of SY 2013-2014 |
|---|---|---|---|---|---|
| Percentage of teachers in Participating LEAs who have access to the Continuous Instructional Improvement Technology System (CIITS) | N/A | 0% | 25% | 50% | 100% |
| Percentage of principals in Participating LEAs who have access to the Continuous Instructional Improvement Technology System (CIITS) | N/A | 0% | 25% | 50% | 100% |
| Percentage of teachers in Participating LEAs who use the Continuous Instructional Improvement Technology System (CIITS) to inform instruction | N/A | 0% | 25% | 50% | 100% |
| Percentage of principals in Participating LEAs who use the Continuous Instructional Improvement Technology System (CIITS) to inform instruction | N/A | 0% | 25% | 50% | 100% |

Our targets for teacher and principal access to the Continuous Instructional Improvement Technology System (CIITS) ramp up each year mirroring our implementation timeline for the development and rollout of that system to meet our goal of 100% access by the end of the 2013-2014 school year. Our targets for teacher and principal use of the CIITS to inform instruction, it should be noted, might seem unrealistically high, given the nature and complexity of this sort of system. However, this reflects our expectation that individuals will find some components of the system more accessible than others, and will begin to use those components. It does not indicate a belief that all teachers and principals will be utilizing all components of the system in the given time frame. We would expect robust usage of the system by all educators to lag behind the access targets by about 50% acknowledging the challenges of implementing a new technology system and changing the culture in schools and classrooms as a result.

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